

Even here, however, some knowledge and experience are necessary to secure both safety and satisfaction from its use. The skill necessary for its use in labor can be acquired in a short time, but free use of gas by the absolutely inexperienced will surely lead to tragedies."⁸

The use of N₂O and air instead of N₂O and oxygen has been advocated by many on the ground of economy and the simplicity of apparatus which may be employed.

Guedel calls attention to the fact that "under individual pain administration the babe in utero receives but little N₂O from the mother, no matter how great may be the excess of gas in the mother's blood during the acme of contraction." He adds: "During the period of induction when the gas is entering the blood of the mother, the uterus is contracting so that there is little if any interchange of foetal and maternal blood. The babe lives during the uterine contraction upon well oxygenated placental blood accumulated between pains. The anesthetic is removed at the acme of contraction and as only 10 to 20 seconds are necessary for the removal of the excess N₂O from the blood of the mother, it becomes evident that the blood of the fetus receives but little nitrous oxid at any time. By the time the uterus is relaxed sufficiently to permit an interchange of blood through its walls, the blood of the mother is almost free of nitrous oxid and is again well oxygenated."⁴

The question of rebreathing is of importance because of economy and because it serves to warm the gas. Too much rebreathing however is apt to cause nausea and headache. In our work we have better results without rebreathing for intermittent analgesia, and with only fractional rebreathing for continuous analgesia and anesthesia.

Expense.—The expense of nitrous oxid analgesia is reported by various investigators as all the way from 57 cents to \$5.00 an hour. The difference is mainly due to the price of gas in the particular locality from which the report originates, the kind of apparatus used, whether air or pure oxygen is used with the nitrous oxid, and whether or not rebreathing is employed. The gas in the largest cylinders is the least expensive.

By using the large cylinders, an apparatus in which the flow of gas is automatically shut off except when the patient is inhaling, looking carefully after all possible leaks and keeping our apparatus in perfect working order, we have found that even at the comparatively high price of gas on this coast we are able to give gas for obstetrical analgesia and anesthesia at a cost to each patient of \$2.50.

In the series of cases since we commenced giving gas to all obstetrical patients who so desired there are 201, of which number 83 had N₂O,O; 19 had N₂O,O followed by ether; 81 had ether and 18 had no anesthetic. These last were mainly patients who entered the hospital a few minutes before delivery. Our records are complete in all respects except for some gaps in the duration of the various stages.

DURATION OF STAGES.

PRIMIPARAE.			
N ₂ O,O	N ₂ O,O-E	Ether	Nothing
1.....15' 17"	25'	16' 50"	11' 10"
2.....2' 12"	1' 7"	1' 05"	21"
3.....19"	13"	17"	18"
MULTIPARAE.			
N ₂ O,O	N ₂ O,O-E	Ether	Nothing
1.....10' 52"	10' 41"	9' 53"	10'
2.....58"	2' 31"	51"	27"
3.....17"	12"	18"	17"

LACERATIONS.

PRIMIPARAE.			
N ₂ O,O	N ₂ O,O-E	Ether	Nothing
1°.....7	2	9	1
2°.....19	8	10	2
3°.....—	—	—	—
MULTIPARAE.			
N ₂ O,O	N ₂ O,O-E	Ether	Nothing
1°.....5	0	9	2
2°.....6	1	7	2
3°.....—	—	—	—

FORCEPS.

PRIMIPARAE.		MULTIPARAE.	
N ₂ O,O	N ₂ O,O-E	N ₂ O,O	N ₂ O,O-E
6	7	1	1

MORTALITY.

Maternal—none	Fetal: N ₂ O—6 Ether—6
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Of this number under N₂O,O, two were macerated fetuses; 2 forceps deliveries; 1 version and extraction, and 1 congenital endocarditis, died in two days.

Fetal mortality under ether: 1 premature 2 mo.; 1 cerebral hemorrhage (version); 1 syphilis; 1 premature separation of placenta (forceps); 1 asphyxia—breach extraction.

This synopsis proves nothing but if we had a record of 2000 cases instead of 200, we could begin to draw conclusions. Still better, if by some miracle all who do obstetrics would keep and publish from time to time accurate records of every case, we would soon have something definite to guide us in the choice of methods to relieve the suffering of childbirth instead of opinions, prejudices and often misguided enthusiasm.

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